ABSTRACT

Development Method of Ascorbic Acid Equivalent Determination in 96% Ethanol Extract of Turmeric Using TLC-Bioautography

Rafi'u Hafidz Arrasyid Sukarno

Antioxidant activity by DPPH assay could be applied on uv vis spechrophotometry and TLC-Bioautography. UV-Vis spectrofotometry commonly used for determination all of antioxidant activity on sample test using DPPH asssay. Therefore, TLC-Bioautography applied to detect specific constituents in sample that have antioxidant properties .

Recently, determination of antioxidant activityby measuring AA value as parameter had been developed. mustofa reported that demethoxycurcumin and curcumin had antioxidant activity by measuring AAE value on TLC-Bioautography but he didn't compared the value of TLC-bioautography and UV - Vis Spechtrophotometry. Their compararation can be used for prove that there isn't significant result based on statistical analysis.

For determination AAE on TLC-Bioautography, two types of eluent system were used. There are Hexane:ethyl acetate and Chloroform:methanol. while determination AAE on Spectrophotometry used IC_{50} calculation method.

The result of average value AAE on TLC-Bioautography using Hexane:ethyl acetate yielded 27,34% curcuminoid. While for Chloroform:methanol yielded 15,29% bisdemetoxycurcumin; 24,62% desmetoxycurcumin; 46,19% curcumin. The result of average value AAE on spectrophotometry yielded 51,20% from IC_{50} calculation.

One way ANOVA sattistical test use to compare AAE value on KLT-Bioautography and spectrofotometry . The resulted in p value > $\alpha = 0,05$, (p value 0,082). Therefore, it can be concluded that TLC - Bioautography is a valid method that can be used for determination of antioxidant activity of multicomponent compound by measuring AAE value.